THE

Monthly Correspondent,

&c. &c.

No. II.

FEBRUARY 1, 1814.

Vol. I.

ASTRONOMICAL OBSERVATIONS FOR FEBRUARY.

DIVISIONS OF TIME.

As the Sun is the most conspicuous body in our system, and as he appears to move regularly through the heavens, his motion has been fixed on as one of the best measures of time that is afforded to us by nature. By means of his apparent diurnal and annual revolutions, we obtain the two grand and important divisions of time, into days and years. By combining the revolution of the Sun and Moon, we embrace the larger intervals; and thence form an idea of those grand periods of time, which will be noticed hereafter.

In civil computations, a day is usually divided into twenty-four, or twice twelve hours; reckoning from midnight to noon, and from noon to midnight: but an astronomical day is the interval between the noon on one day and that on the next, and on this principle the Nautical Almanack is constructed; but the Connoisance des Tems, a French work intended for the same purposes, viz. for the special use of practical astronomers and navigators,—follows the usual course of reckoning by twice twelve hours, beginning their day at 12 at midnight. In England then the astronomical day is behind the common day 12 hours: thus by the Nautical Almanack, the New Moon for February takes place on the 19th day, at 11 minutes past 10; but in common rec-



NO. II.

koning we say it occurs on the 20th day, at 11 minutes past 7 in the morning.

An astronomical day is the interval between two successive transits of the Sun's centre over the same meridian, and is divided into 24 hours, reckoned from 1 to 24, without any interruption: so that what is called 9 o'clock in the morning of the 10th of February, by the civil or usual mode of reckoning, is denominated by astronomers, February the 9th, at 21 hours. In some parts of Italy the clocks and watches are made to go from 1 to 24.

The Sun appears to go round the Earth in 24 hours, and the fixed stars in nearly four minutes less, or in 23h. 56m, 4s.; so that any given fixed star is found to gain 3m. 56s. upon the Sun every day, which amounts to one diurnal revolution in a year; and therefore in 365 days, as measured by the returns of the Sun to the meridian, there are 366 days as measured by the return of any given fixed star to the meridian; the former of which are called solar days, and the latter sidereal. The difference between the solar and sidereal days is occasioned by the immense distance of the fixed stars; for the Earth's orbit, though 190 millions of miles in diameter, is but as a point compared with that distance; and, therefore, any meridian of the Earth will revolve from a fixed star to that star again, in exactly the same time as if the Earth had only a diurnal motion, and was to remain for ever in the same part of its orbit. This, however, is not the case with respect to the Sun; for as the Earth advances almost a degree eastward in its orbit in the same time that it turns eastward round its axis, or completes its diurnal revolution, whatever star.passes over the meridian any day with the Sun, will pass over the same meridian the next day, when the Sun is 3m. 56s, short of it. If the year contained exactly 36Q days, as the ecliptic does 360 degrees, the Sun's apparent place would change a degree every day; and in this case, the sidereal days would be just 4 minutes shorter than the solar ones,

The daily revolution of the Earth, which is known to be uniform, is always completed, when any particular meridian is exactly parallel to the situation which it had at a certain time of the preceding day. For the same meridian can never be brought round from the Sun to the Sun again, by one entire revolution of the Earth upon its axis, but it will require as much more of another revolution, as is equivalent to the space that the Earth has advanced in its orbit during that time; which is, at a medium, the 365th part of a circle. So that in 365 days, the Earth will have turned 366 times round its axis; and therefore as one complete rotation makes a Sidereal day, in a year there will be one more sidereal day than there are solar days, be that number what it may.

It may be observed, that the regular return of the fixed stars to the meridian affords an easy method of determining whether our chronometers keep true time. For if through a small hole in a window-shutter, or other fixed object, it be observed at what time a given star disappears behind any building at a small distance; then if the same star disappears the next night, 3m. 56s. sooner by the clock or watch, than it did the night before, and on the second night 7m. 52s. sooner, and so on, it-is a proof that the instrument goes right; but if it does not observe this rule, it is evidently not accurate, and requires to be regulated. As the disappearing of a star is instantaneous, this rule may be depended on to half a second.

The following are the times of Sun-rising and setting, at London, for this month:—

1st. Sun rises 27m. past 7. Sun sets 33m. past 4.

9th. — — 13m. — 7. — — 47m. — 4.

18th. — — 56m. — 6. — — 4m. — 5.

Equation of Time. [See the month of January.]

The following table will show what is to be added to the

time pointed out on the dial, to obtain true or equal time for every 5th day of February:—

The Sun enters Pisces on the 19th, at 20m. past 5 o'clock in the morning. Venus appears stationary on the 18th.

The Moon is full on the 4th, at 46m. past 6 in the afternoon: it enters its last quarter on the 12th, at 45m. past 4 in the morning; the preceding new moon is at 11m. past 7 in the morning of the 20th, and it enters its first quarter at 26m. past 10 in the morning of the 27th. The time of the Moon's rising, for the first five days after she is full, will be as follows, viz. on the

5th of February, 34m. past 5 in the afternoon.

On the first day of this month the Moon will eclipse the star marked ν II. in astronomical catalogues. The immersion will take place, at 13m. past 11 in the evening, when the star will be 7m. south of the Moon's center; and the emersion will be at 13m. past 12, the star being 8m. south of the Moon's centre.

On the 12th day, the Moon will eclipse the star va. The immersion will happen at 8m. past 12 in the morning, when the star is 7m. north of the Moon's centre; and the emersion will take place at 16m. past 3 in the morning, the star being 10m. north of the Moon's centre.

At 20m. past 5 in the morning of the 18th, Mercury

will be in conjunction with the Sun. On the 24th, at 9 in the morning, Jupiter will be in opposition to that luminary.

The eclipses of Jupiter's first satellite, for February, that are visible, in London and its vicinity, are as follow, viz. the immersions take place on the

3d day, at 42m. past 2 o'clock in the morning.							
4th		11		9	-		evening.
	, — .				-		morning.
	-						evening.
				12			evening.
	·—			•			evening.
26th		6		5			morning.
27th		35		11			evening.

OF THE COMET, IN 1811.

By Charles Verral.*

[Author of the " Pleasures of Possession."]

Ar midnight, through the fields of air, Behold portentous Meteors glare! Hurl'd by the vengeful arm of fate, On them tremendous thunders wait; While the red lightnings, as they fly, Take their red course athwart the sky; To fill the sinner's soul with dread, And blast the bold blasphemer's head.

^{*} This gentleman, whose former production has received its tribute of approbation, amongst all readers possessed of unvitiated taste,—who prefer the sterling simplicity and sweetness of Goldsmith, Campbell, and Rogers, to the insipid doggerel, that, under various titles of tales and battles, has of late dishonoured the English language, and not seldom the genius of the writers themselves, is about to publish a volume of poems, which will contain some dramatic pieces, that, we have no doubt, will increase his reputation as a Poet.—ED.

And see the ill-omen'd Comet trail Amid the stars, his fiery tail! Portentous beam! thou rid'st sublime, Still as the silent tread of time; But fatal to mankind below. As the loud thunder's deadliest blow: Thy solemn march, thy dismal light, Fill gazing nations with affright; And tell a tale as dire and dread As ghosts that haunt the murderer's bed. Wroth at our crimes, the Eternal Sire Launch'd in mid-air thy world of fire, Mark'd out thy course, and bade thee bring Strange terrors on thy flaming wing: Oft as thy wandering orb returns, With threefold heat, the dog-star burns; With threefold rage November blows; Threefold December heaps his snows; And streams and floods in threefold chains. Stern Winter's icy hand restrains.

Oh! could'st thou quit thy custom'd way,
And through the skies unbridled stray,
Forth rushing with tremendous sound,
And dealing direful ruin round;
Thou'd'st hasten Nature's final doom,
And all her noblest works consume.
The dreadful shock, the raging flame,
Would crush the world's extended frame;
The Sun would fade, the stars would fall,
And night and chaos reign o'er all.

But he, who angry at our crimes, Sent thee to scourge the guilty times; Who lighted up thy beacon fire, To warn us of the awakening ire;

To light his victims to their tomb. And grace with awful pomp their doom: HE, with strong arm, restrains thy force. And keeps thee in thy destin'd course: And, from his fair creation far Commands thee wheel thy blazing car; Who bade thy flaming flag, unfurl'd. Threaten with war a rebel world: Who, while his dread destroying hand, Bestrews with dead the sickening land, Commands thy torch with streaming light. Out-glare the sparkling lamps of night. Protected by a guard so sure, Earth's deep foundations stand secure, And nature sees thee, void of fear; Bright shining in thy proud career.

OF ECLIPSES.

Eclipses were formerly subjects of dread and terror; but philosophers have converted them to the purposes of utility and instruction. The Moon can only be eclipsed by the interposition of an opaque body, which intercepts from it the light of the Sun; and it is obvious that this opaque body is the Earth, because the eclipses of the Moon never happen, except when the Moon is in opposition, and consequently when the Earth is interposed between her and the Sun. The globe of the Earth projects behind it a conical shadow, the axis of which is the straight line that joins the centres of the Earth and Sun, and which terminates at the point where the apparent diameters of these two bodies become equal. The diameters of these two bodies, seen from the centre of the Moon in opposition, are nearly in the proportion of 3 for the Sun, and 11 for the Earth. Therefore the conical shadow of

the Earth is, at least, thrice as long as the distance between the Earth and Moon, and its breadth at the point where it is traversed by the Moon more than double the diameter of that luminary. The Moon, therefore, would be eclipsed every time it is in opposition, if the plane of the orbit coincided with the ecliptic. But in consequence of the mutual inclination of these two planes, the Moon, when in opposition, is often elevated above the Earth's shadow, or depressed below it, and never can pass through that shadow, unless when it is near the nodes. If the whole of the Moon's disk plunges into the shadow, the eclipse is said to be total; if only a part of the disk enter the shadow, the eclipse is said to be partial.

The Moon's diameter, as well as the Sun's, is supposed to be divided into 12 equal parts, called digits; and so many of these parts as are darkened by the Earth's shadow, so many digits is the Moon said to be eclipsed. All that the Moon is eclipsed above 12 digits shews how far the shadow of the Earth is over the body of the Moon, on that edge to which she is nearest at the middle of the eclipse.

Eclipses of the Sun only take place during the conjunctions of the Sun and Moon: they are occasioned by the Moon's body being interposed between the Sun and Earth, or, in other words, by the Earth's being plunged in the shadow of the Moon. The Moon, though much smaller than the Sun, is so much nearer to the Earth, that its apparent diameter does not differ much from the diameter of that luminary; and, in consequence of the changes which take place in the apparent diameter of these bodies, it happens that, in some positions, the apparent diameter of the Moon is greater than that of the Sun. If we suppose the centres of the Sun and Moon in the same straight line with the eye of the spectator placed on the Earth, he will see the Sun eclipsed. If the apparent diameter of the Moon happens to surpass that of the Sun, the eclipse will be total; but if the Moon's diameter Sun, the eclipse will be total;

ameter be the smallest, the observer, if properly situated, will see a luminous ring formed by that of the Sun's disk, which exceeds that of the Moon's; and the eclipse, in this case, is called annular. If the centre of the Moon is not in the same straight line which joins the observer and the centre of the Sun, the eclipse can hardly be partial, as the Moon can only conceal a part of the Sun's disk: on these accounts, there must necessarily be a great variety in the appearances of solar eclipses. We may add also, to these causes of variety, the elevation of the Moon above the horizon, which is the cause of considerable changes in the diameter; for it is a fact. well and generally known, that the Moon's diameter appears larger when she is nearer the horizon than when she is elevated above it: and, as the Moon's height above the horizon varies according to the longitude of the observer, it follows. that the solar eclipses will not have the same appearance to observers situated in different longitudes on the earth. One observer may see an eclipse which does not happen to another in a different situation, and yet the latter as well as the former shall be above the horizon in the same hemisphere; and, in this respect, the solar differ from the lunar eclipses, which are the same to all the inhabitants of the earth.

We often see, says La Place, the shadow of a cloud transported by the winds, rapidly pass over the hills and vallies, depriving those spectators which it reaches of the light of the Sun that others are enjoying; this is the exact image of a total eclipse of the Sun. A profound night, which, under favourable circumstances, may last from four to five minutes, accompanies these eclipses; the sudden disappearance of the Sun, with the solemn darkness that succeeds, fills all animals with dread; the stars which have been effaced by the light of the day, show themselves in full lustre, and the heaven resembles the most profound night: round the lunar disk, a crown of pale light has been perceived, which is thought to be the solar atmosphere, for its

No. II.

extent cannot accord with the Moon, as it has been ascertained, by eclipses of Sun and stars, that the lunar atmosphere is nearly insensible.

The Moon does not entirely disappear in its eclipse, but is still enlightened by a very faint light that comes to it by the Sun's rays, inflected through the terrestrial atmosphere; and, but for the great absorption of these rays by our atmosphere, its brightness would be more vivid than at the We may sometimes distinguish, particularly full Moon. about the time of a new Moon, that part of the lunar disk which is not enlightened by the Sun: this feeble light is the effect of the light which the illuminated hemisphere of the Earth reflects upon the Moon; what proves this is, that it is most sensible at the time of a new Moon, when the greatest part of this hemisphere is directed to the Moon; for it is clear, that to a spectator in the Moon, the Earth will present a succession of phases, similar to that which the Moon presents to us, but accompanied by a much more intense light from the greater extent of the terrestrial surface,

[To be continued.]

OF THE FOUR NEWLY-DISCOVERED PLANETARY BODIES,

Ceres, Pallas, Juno, and Vesta.

It was believed, till the present century, that the planet Jupiter was next to Mars in the solar system. On the 1st of January*, 1801, the planet Ceres was discovered at Palermo, in Sicily; and since that, at different periods, three other small planetary bodies have been found to exist, whose orbits

* The opinion that the immense space between the orbits of Mars and Jupiter must be accommodated with one or more planets had been recently formed by others, particularly Capel Lofft, esq. to whose scientific and literary researches society is greatly indebted.—ed.

are between those of Mars and Jupiter: of these, we shall give an account in their order, according to the dates of their discovery. The planet Ceres, when first seen, was observed to be in Taurus; the nebula, with which it was apparently surrounded, gave it the appearance of a comet; and it was in consequence of the suggestion of Professor Bode, of Berlin, or of Zack, that Piazzi, and other astronomers, ranked it among the planetary bodies.

The planet Ceres is of a ruddy colour; and, with a proper telescope, it appears about the size of a star of the 8th magnitude. It seems to be surrounded with a large dense atmosphere, and plainly exhibits a disk, when examined with a magnifying power of about 200. This planet is situated between the orbits of Mars and Jupiter. She performs her revolution round the Sun in 4 years, 7 months, and 10 days; and her mean distance from that body is nearly 260 millions of miles. The eccentricity of her orbit is not very great, but its inclination to the ecliptic exceeds that of the old planets. The length of its diameter was thought by Dr. Herschel not to exceed 160 miles; but, according to Schreeter, it is more than ten times that length.

Pallas, the next planet in order, was discovered at Bremen, in Lower Saxony, on the 28th of March, 1802, by Dr. Olbers: the same active astronomer who rediscovered Ceres, after it had been lost to M. Piazzi, and others. Pallas is situated between the orbits of Mars and Jupiter, and is nearly of the same magnitude with Ceres; but, in colour, it is less ruddy: it is surrounded with a nebulosity of almost the same extent, and performs its annual revolution in about the same period. The planet Pallas, however, is distinguished in a remarkable manner from Ceres, and all the other primary planets, by the immense inclination of its orbit. While these bodies are revolving round the Sun, in almost circular paths, rising only a few degrees above the plane of the ecliptic, Pallas ascends above this plane, at an angle of about 35 de-

grees. From the eccentricity of Pallas being greater than that of Ceres, while their mean distances are nearly equal, the orbits of these two planets mutually intersect each other, a phenomenon which is altogether without a parallel in the solar system. The diameter of Pallas has not been determined with accuracy: there is, indeed, a great discordancy in the opinions of the English and German astronomers; Herschel making it only 80 miles, while Schroeter makes it no less than 2099 miles.

The planet Juno, the third of the newly-discovered planets, was observed first by Mr. Harding, at the observatory of Lilienthal, near Bremen, on the evening of the 1st of September. 1804. While this astronomer was forming an atlas of all the stars which are near the orbits of Ceres and Pallas. he observed, in the constellation of Pisces, a small star of the 8th magnitude, which was not mentioned in the Histoire Celeste of La Lande; and, being ignorant of its longitude and latitude, he put it down in his chart as nearly as he could estimate with his eye. Two days afterwards, the star disappeared; but he perceived another which he had not seen before, resembling the first in size and colour, and situated a little to the south-west of its place. He observed it again, on the 5th of September; and, finding that it had moved a little farther to the south-west, he concluded, that this star belonged to the planetary system. The planet Juno is of a reddish colour, and is free from that nebulosity which surrounds Pallas: it is situated between the orbits of Mars and Jupiter, like the others just described. Its diameter is less, and its distance greater, than those of the other new planets. It is distinguished from all the other new planets, by the great eccentricity of its orbit; and the effect of this is so very sensible, that it passes over that half of its orbit which is bisected by its perihelion in half the time that it employs in describing the other half, which is farther from the Sun. From the same cause, its greatest distance from the Sun is

double the least distance; the difference between the two distances being about 127 millions of miles. Its mean distance from the Sun is 275 millions of English miles.

It was a century and half ago conjectured, that there must be a planet between the orbits of Jupiter and Mars, on account of the distance subsisting between those two planets. The discovery of Ceres confirmed this happy conjecture; but the opinion which it seemed to establish, respecting the harmony of the solar system, appeared to be completely overturned by the discovery of Pallas and Juno. Dr. Olbers, willing to find a theory that should account for the facts newly ascertained, imagined, that these small celestial bodies were merely the fragments of a larger planet, which had been burst asunder by some internal convulsion, and that several more might be yet discovered between the orbits of Mars and Jupiter. He, therefore, concluded, that though the orbits of all these fragments might be differently inclined to the ecliptic, yet, as they must have all diverged from the same point, they ought to have two common points of re-union, or two nodes in opposite regions of the heavens, through which all the planetary fragments must sooner or later pass. One of these nodes Dr. Olbers found to be in Virgo, and the other in the Whale; and it was actually in the latter of these regions that Mr. Harding discovered the planet Juno. With the intention, therefore, of detecting other fragments of the supposed planet, Dr. Olbers examined, thrice every year, all the little stars in the opposite constellations of the Virgin and the Whale, till his labours were crowned with success, on the 29th of March, 1807, by the discovery of a new planet, in the constellation of Virgo, to which he gave the name of Vesta.

As soon as this discovery was made known in England, the planet was observed at Blackheath, on the 26th of April, 1807, by Mr. Groombridge, an active astronomer, who continued to observe it, with an excellent astronomical circle,

till the 20th of May, when, from its having ceased to become visible on the meridian, he had recourse to other instruments. He resumed his meridional observations in the month of August, and had the good fortune, on the 8th of September, to observe the ecliptic opposition of the planet.

The planet Vesta, is of the 5th or 6th magnitude, and may be seen, in a clear evening, by the naked eye. Its light is more intense, pure, and white, than any of the other three. It is not surrounded with any nebulosity, and has no visible disk. The orbit of Vesta cuts the orbits of Pallas, but not in the same place where it is cut by that of Ceres. According to the observations of Schroeter, the apparent diameter of Vesta is only half of what he found to be the apparent diameter of the 4th satellite of Saturn; and yet, it is very remarkable, that its light was so intense, that Mr. Schroeter saw it several times with the naked eye. The period of its revolution about the Sun, is 1 year and 66 days.

[To be continued.]

To the Editor of the Monthly Correspondent.

81R,

I CANNOT help expressing much satisfaction at the announcement of your MONTHLY CORRESPONDENT, on a plan so truly liberal, and to shew my gratitude, which every effort made for the promotion of knowledge and happiness merits, I beg your acceptance of something regarding Botany; but, at this time, I shall offer only what must be considered as introductory matter, because I intend to pursue the subject regularly, or, at least, I hope some other person, better qualified than I am, will contribute to so desirable an end. Exertions, united in the way your work opens to every one, cannot fail of doing infinite service, and attaining the object of natural investigation. I am, Sir, yours,

Studiosus.

As Botany is an essential branch of Physic, the study of it is as indispensably necessary, as of Anatomy and Chemistry, to men who are to move in the important sphere of medical practice; and to other persons it will afford not only amusement, but information, worthy a rational being. In 1730, the study of it appears to have been much neglected for want of encouragement in England, which circumstance induced numbers to cultivate the study of it in foreign climates.

In that century, we cannot but regret to find that the Physic garden at Oxford, notwithstanding it was ably and judiciously planned, remained, for many years, unproductive of the benefits expected from it, and wholly on account of the want of adequate support; but, with much pleasure, we have to observe, that afterwards it presented the most successful prospects, which hope had only brightened: and, for this agreeable circumstance, the lovers of this science must be indebted to the extraordinary benefaction of Dr. William Sherrard. We have, likewise, in the same century, to be grateful to Dr. Bradley, for his indefatigable exertions in the furtherance of the knowledge of the science; and we cannot withhold the highest encomiums from persons of the first rank, who shewed their friendship to Dr. Bradley, and directed him to select a suitable piece of ground at Cambridge for a Physic garden. Such a plan could not fail in affording facilities to the study of Botany, and the examination of each respective plant, and observation of all its changes, from its first appearance to the maturation of its seed; by this mode the most complete knowledge will be gained. The knowledge of Botany, in fact, cannot be readily dispensed with, as the mineral, vegetable, and animal kingdoms are relevant to one another, from the harmony existing in all; minerals being auxiliaries to vegetables, and vice versa; and vegetables also being auxiliaries to animals, and vice versa.

Dr. Bradley says, that the same vegetable will prosper

or decline, as the soil happens to be more or less favourable; and it is just so between vegetables and animals; for an animal, as it finds vegetables proper for its nourishment more or less, will be, more or less, improved; and, he observes, experience teaches us, that the juices of animals are always helpful to vegetables: for, if we lay the flesh of an animal, or the soil derived from it, to the root of a sickly plant, it will certainly promote its growth. He further states, that earths are not always immediately affording proper nourishment to vegetables, instancing the missleto, the mosses, dodder, &c. &c. which will grow only upon the plants themselves, and never in the pure earth, because they are nourished by the excrementitious juices of the plants, upon which they grow; and he also says, that they do in some degree partake of the virtues of the respective plants, where we find them.

[To be continued.]

To the Editor.

SIR,

Agreeably to the Prospectus of a periodical work, to be published on the 1st of January, entitled "The Monthly Correspondent, &c. &c." I beg to become a Medical Correspondent, for two reasons,—1st, because I consider it right to encourage every laudable undertaking; and, 2dly, it is the duty of every one to be communicative and aiding the cause of knowledge and humanity. I am, &c.

London, Dec. 27th, 1813. MEDICUS.

P.S. Should I be thought worthy of any answer, I can receive the favour through the medium of your Magazine, either encouraging a continuance of my correspondence, or requesting a personal communication, either of which will be at all times, with much pleasure, at your service.

OBSERVATIONS ON HEALTH.

Orandum ut mens sana in corpore sano.

JUVENAL.

An healthy Body, and an healthy Mind, Should be the constant Study of mankind.

THOUGH Health is the unquestionable desideratum of all, yet a variety of circumstances operate in its derangement and irretrievable loss; or the diffusion of its blessings through the system; and this view of the subject presents abundant objects for pity, as well as censure, since it is either made the sacrifice of immoderate indulgence or extreme negligence; or, the possibility of enjoying it is prevented by physical causes. Now it is not an easy task to hold out such rules as are applicable to all cases; the mental and constitutional variety is sufficient to justify me in adopting a way of serving mankind more practicable and effectual; but this piece of service cannot be performed in any other manner than by a periodical continuation of the subject, the limits prescribed to correspondence, and the manifold nature of the design, precluding me from executing it. In our expectations of the enjoyment of health, we are to be guided by reason, as well as in our expectations of riches and preferment. Where the mental and constitutional frame shew an incapacity, from physical causes, to promise health; a sanguine hope of enjoying it is too often the source of evils, surpassing what nature has formed: and attempts made, with the view of producing the sunshine of sanity in certain minds, or establishing vigour in peculiar constitutions, not only betray a waste of time and money, but really are productive of infinite injury.-I, however, beg to be understood clearly; I do not mean to insinuate, that here, nothing is to be done, far from it; a reasonable indulgence in hope, and lenient remedies certainly is laudable, and so far useful, because it is consola-NO. II.

tory. It therefore becomes highly requisite to ascertain the physical capacity, and physical incapacity, to enjoy Health; the attainment of this knowledge will be the best guide; and should it not hold out the agreeable, it prevents the fallacious, prospect of unattainable blessings.—

For Man, perhaps, the moment of his breath, Receives the lurking principle of Death; The young disease, which must subdue at length, Grows with his growth, and strengthens with his strength.

POPE.

[To be continued.]

PHILOSOPHICAL DISCOVERY.

[Communicated to the Editor by P.P.P.]

A NEW GAS.

SIR HUMPHRY DAVY has communicated an interesting account to the Royal Society, which was read on Thursday the 20th Jan. of a new Gas, discovered in Paris, by a manufacturer of saltpetre in that capital. It appears, that the discovery was made two years ago; but such is the oppressed state of science in Paris, that it has remained unnoticed till the arrival of the illustrious English philosopher, who has analyzed it with his usual ability, and described the various new and important phenomena which it exhibits. It is prepared from all kinds of sea-weed, after the carbonat of soda has been extracted from it, by simply pouring sulphuric acid on the residuum; and when raised to the temperature of 158° a beautiful violet-coloured gas is disengaged. This gas the French chemists would call Ion gas, from for, violet; but which Sir Humphry has denominated Violaceous gas: it is the heaviest known aerial fluid, 100 cubic inches, weighing 95.5 grains; it is not inflammable—is not a supporter of combustion—is a non-conductor of electricity—is soluble in ether, spirits of wine, and water-has great affinity for muri-

atic and hydrogen gases, with the latter it readily combines, and forms Hydroionic gas. It has many properties in common with oxygen and chlorine or oxy-muriatic gas, and also the alkalies; but its chief and most important character is rapidly uniting at a moderate temperature with iron, zinc, tin, lead, and mercury, and converting these metals into salts, which may be called violats, of beautiful yellow, orange, and brown tints, very proper for fine pigments: perhaps they may also be useful in the dye-house. It unites with oxygen, like the alkalies, from which it is easily expelled by heat; at a high temperature the violaceous gas is dissipated; in a moderately. low one, it condenses and forms fine violet-coloured crystals. It is a simple or undecomposed gas, which with hydrogen and phosphorus forms muriatic acid; with ammonia it produces a detonating compound. The discovery of these substances confirms the opinion of Sir Humphry, that acids (which are so denominated from the sensation which they excite) and alkalies, do not depend on any acidifying principle, but merely on certain modifications of matter.

THE SCIENTIFIC QUERIST.

To the Editor of the Monthly Correspondent.

Dec. 23rd, 1813.

SIR,

Invited by the liberal manner in which the Monthly Correspondent is announced to the public, I feel particular pleasure in offering my mite; and, should it be worthy of acceptance, it will give me great pleasure to continue my communications, under the impression that my offering, though trivial, may nevertheless tend to promote the laudable design with which your work is published. Yours,

PHILALETHES.

From memoranda collected from authors, whose works entitle them to great consideration, I request to offer the following aphorism, which, through the medium of your publication, I shall be glad to find verified: and, if this mode of contributing to the tendency of your work be acceptable, I shall regularly supply you with communications of this nature; and also with other matter equally relevant to the object of philosophical investigation.

In furentibus Luna Mercurio non copulatur in hâc figurâ Saturnus quidem noctù Mars autem interdiù cardinem tenebit maximè que in Cancro, Virgine ac Piscibus.

Thus translated:

In the nativities of mad persons, the Moon is not conjoined with Mercury,—Saturn by night, and Mars by day, being posited in cardinal signs, particularly Cancer; the same also takes place when they are in Virgo and Pisces,

To the Editor of the Monthly Correspondent.

Pimlico, Dec. 22, 1813.

SIR,

Having lately had access to the library of a gentleman, to whose family the unfortunate Richard Savage was related, in turning over the leaves of Johnson's Lives of the Poets, I found the following curious verses, appended by way of note, on the day of his birth, as given by his biographer, (10th Jan, 1697-8.)—

"ILL-FATED Progeny of lawlesse love!
Though borne" beneathe the gracious star of Jove;
Mars' evil rays, with Saturne sad conjoin'd,
And Luna's beame insane, deformed thy minde!
Bankrupt from birthe, a mother's proude disdaine,
Steeped thy young heart in misery and paine.

This is spelled verbatim, &c.

Through life, sore indiscretions swayed thy minde,
And ofte to deedes, I blush to name, inclined:
Yet Virtue ofte companioned thee alonge,
And was the source of many a moral songe;
Jove gave thee this; but woe alass the while!
That Mars gave those, and did thy steps beguile;
If Mercury friendly on thy mind arose,
Venus, her weakness gave it, and her woes.
What wonder Penury then thy steps pursued?
What wonder blood thy lawlesse hands imbrued?
What wonder Deathe in prison was thy ende,
And wante almoste of every real friende?
For ever wrong—what wonder Saturne wove
Thy web of anguish faste—poor childe of lawlesse love?"

Quere. The hour and minute of Mr. Savage's birth?—In order to enable them to discover these, however, it may be necessary to inform your correspondents by an extract from Dr. Johnson, that Savage was imprisoned for being concerned in the murder of a Mr. James Sinclair, on the 20th Nov. 1727, and tried and cast for death; which, however the interposition of his friends with queen Caroline averted, in spite of (oh, sad, and, thank heaven, rare instance of maternal malignity!) the efforts of his own mother, who opposed his pardon most strenuously to the last. He died in Newgate, the victim of his indiscretions, July 31st, 1743. Dr. Johnson thus describes his person and mind, to which description I should not do justice, by delivering it in any other words than his.

"Savage," he says, "was a man equally distinguished by his virtues and vices; and at once remarkable for his weaknesses and abilities.

"He was of a middle stature, of a thin habit of body, a long visage, coarse features, and melancholy aspect; of a grave and manly deportment, a solemn dignity of mien, but which, upon a nearer acquaintance, softened into an engaging carnestness of manners. His walk was slow, his voice tremulous and mournful. He was easily excited to smiles but very seldom provoked to laughter.

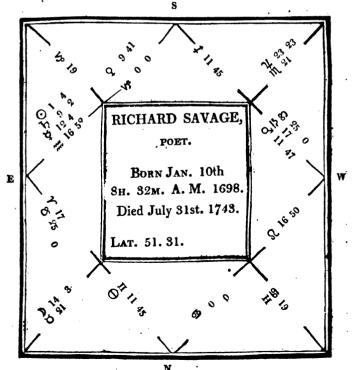
- "His mind was in an uncommon degree vigorous and active. His judgment was accurate, his apprehension quick, and his memory so tenacious, that he was frequently observed to know what he learned from others in a very short time, better than those by whom he was informed, and could frequently recollect incidents, with all their combination of circumstances, which few would have regarded at the present time, but which the quickness of his apprehension impressed upon him. He had the art of escaping from his reflections, and accommodating himself to every new scene.
- "To this quality is to be imputed the extent of his knowledge compared with the short time which he spent in visible endeavours to acquire it. He mingled in cursory conversation with the same readiness of attention as others apply to a lecture, and amidst the appearance of gaiety, lost no idea that was started, nor any hint that could be improved. He had therefore made in the coffee-houses the same proficiency as others in their closets; and it is remarkable that the writings of a man of little education and little reading have an air of learning scarcely to be found in any other performances, but which, perhaps, as often obscures as embellishes them.
- "He was compassionate both by nature and principle, and always ready to perform offices of humanity; but when he was provoked (and very small offences were sufficient to provoke him), he would prosecute his revenge with the utmost acrimony till his passion had subsided.
- "His friendship was therefore of little value; for though he was very zealous in the support or vindication of those whom he loved, yet it was always dangerous to trust him, because he always considered himself as discharged at the first quarrel from all ties of honour and gratitude, and would betray those secrets which in the warmth of confidence had been imparted to him. This practice drew upon him an universal accusation of ingratitude: nor can it be denied that he was very ready

to set himself free from the load of an obligation, for he could not bear to conceive himself in a state of dependance, his pride being equally powerful with his other passions, and appearing in the form of insolence at one time, and of vanity at another. Vanity, the most innocent species of pride, was most frequently predominent: he could not easily leave off, when he had begun to mention himself or his works; nor even read his verses without stealing his eyes from the page, to discover in the audience how they were affected with any favourite passage.

"His veracity was questioned, but with little reason; his accounts, though not indeed always the same, were generally When he loved any man he suppressed all his consistent. faults; and when he had been offended by him, concealed all his virtues: but his characters are generally true, so far as he proceeded; though it cannot be denied, that his partiality might have sometimes the effect of falsehood."-The Doctor concludes the life of this unhappy man, by observing, "This relation will not be wholly without its use; if those, who languish under any part of his sufferings, shall be able to fortify their patience by reflecting, that they feel only those afflictions from which the abilities of Savage did not exempt him; or those, who, in confidence of superior capacities or attainments, disregard the common maxims of life, should be reminded that nothing will supply the want of prudence; and that negligence and irregularity, long continued, will make knowledge useless, wit ridiculous, and genius contemptible."

As in your Prospectus, the Biography of persons, now or lately living, is to be produced for exemplifying the truth of Prognostic Astronomy, I wish for the above to be inserted in your first number; and hope, in a future publication, to see some elementary cause given for the extraordinary life and conduct of Richard Savage. I am, Sir,

An admirer of your Plan, LILLY, Jun. The foregoing letter was transmitted to us in the month of December last, but press of matter prevented it from being inserted in the Querist for January. As the destiny of Richard Savage has interested, and will continue to interest, all ingenious and liberal-minded men, it has been thought proper to assign the probable elementary causes for his wanderings and misfortunes; for his inflexibility in error; and, consequently, unhappy end. As many of our readers may not be acquainted with the particulars of his life, in addition to what our correspondent relates, we have subjoined an abridgment of it; upon which our scientific friends, by combining events with the elementary impression which he appears to have received at birth, will form their own conclusions. These, though differing from ours, if transmitted for insertion, shall receive the most impartial notice.



Taken and cast for murder at the age of 29y.—10m. 10d, but received his pardon at 30y.—2m.

Directions.

Ascendant to the ϑ of	odirec	t direct	ion.				,	
Right ascension of the	mid-he	aven is	-		•.	250°	13'	
Right ascension of o'		-	-		-	192	1.	
Distance of o' from the	mid-h	eaven	-		-	58	12	
Decimation of O	-		_	56′	_			
Semi-diurnal arc, from which subt. \\ his distance from the 10th. \\ \text{87 24} and it leaves								
His distance from the	western	angle	29	T2			•	

Which is the mid-heaven to his \square , and consequently the ascendant to his δ .

The result would have been the same if the oblique descension of the western angle had been taken from that of σ^2 under the pole of the 7th, or the oblique ascension of the ascendant from the oblique ascension of the opposite place of σ^2 with contrary latitude. It must also be remarked, that σ^2 came at the same time to the σ^2 of σ^2 and nearly so to σ^2 .— The approximation of σ^2 to the mid-heaven, and the σ^2 to the biquintile of σ^2 in mundo direct, were the directions that saved his life.

The directions for death are numerous, and of the most malignant nature: whether we take the horoscope or h for Hyleg, there would appear sufficient cause to produce it: however, h having great dignities in the ascendant, it being his house, joy and triplicity; being lord of the figure, and within three degrees of the oriental horizon,—lord, also, of the preceding new moon, appears to claim that dignity: and after passing his own square, the quartile also, of \(\forall \) in the Zodiac, he made the \(\forall \) of which the following is the calculation.—

Right ascension of b	-	•	-	311°	43′
Ascensional difference he is in a southern			'30', as '	24	42
Oblique ascension	-	•		336	25
Right ascension of)	-	-	-	41°	5 0 ′
The circle, add -	٠.	•	-	360	00
. 1 1.00		., ,		401	50
)'s ascensional difference 50° 30', as the) is tract -				18	17
Oblique ascension of	-	•	•	383	33
Oblique ascension of I	, subtra	ict 🕡 -	. •	336	25
Arch of direction	-		-	47	8

Whoever chooses to make the calculations will find this fatal direction to have been preceded by the following, viz.

h to his own I in the Zodiac,

b to the □ of \.

Ascendant to the of).

) to the parallel of b converse.

) to ơ ţ,

O to & ♂ direct.

) to \triangle b in the world, at 47 years.

[The Biography of Richard Savage, with a copious illustration of the science as it applies to him, in our next.]

To the Editor of the Monthly Correspondent.

Brigg, Lincolnshire, Jan. 4th, 1814.

SIR,

I SEND you the Horoscope of a Maniac, who was born about four miles east of this town; which, in a very eminent degree, proves the potency of stellar influence, both on the body and mind,—I knew this poor fellow well. He was not

tall, his hair was brown, his eyes, before they were distorted by fury, or glazed by idiotcy, of a bright blue, and his complexion fair; his shoulders were rather round, as it is called, and he stooped forward in his gait.

His reasoning powers were never either keen or active; and, from infancy, he used to be troubled with excruciating pains in the ear. His father, with whom he toiled daily, is a labourer—a just, liberal-minded, and honest man; with talents far superior to most men in his station. The heart of his son, previously to the overthrow of his reason, was affectionate and kind to all. When a neighbour was in trouble, he was the first to lend his hand, if possible, to relieve, and, when that was impracticable, to drop a tear for, his sufferings.

Of music he was passionately fond. On hearing sweet and simple melodies, I have seen his faculties so totally absorbed, as nearly to overpower him, and he has wept with the ecstasy of delight he felt. Yet his angry passions, when roused, were very violent; and his strength, at those periods, approximated to supernatural. His mother having a large family, though she was tender and good, could not bestow that superior care and attention on his sickly infancy, which perhaps it called for: and the slowness of his apprehension ever exposed him to the taunts and the mockery of the unfeeling.

His mother died, I believe, in August, 1797; from which period may be dated the first symptoms of the total decline of his reason. This event was soon followed by another most painful and distressing; and the heavenly lamp was quenched for ever. His father rented a little cottage, where his ancestors had lived, and laboured for honest bread near a century. Here he might still have existed and enjoyed his limited portion of happiness; but a new rector, with whom his father was not a favourite, came to take possession of the village living, and tore away the cottage, that so long had sheltered them from the storms, and the little

fields that so long had fed the cows, that nurtured them; which deed of vindictive tyranny was the fulfilment of his fate.—He was deranged 15 years, and died at 36 yrs. 8 mths.

Alas, poor Joe! may thy manes be gratified by this remembrance:—thou wast harmless; and as far as thou hadst the power, loved and practised virtue. Accept the tributary tear here paid thee,—and if to know thy memory is loved and pitied, can heighten the bliss thou enjoyest IN A PLACE WHERE THY OPPRESSORS CAN NEVER COME,—mayest thou know it! I am, Mr. Editor,

Yours, &c.—F. A.

P. S. The circumstance of his madness, and the cause of it, making some stir in this part of the county, it gave birth to the following pathetic stanzas, which were published a little time ago in a volume of poems, written by Thomas Robinson, who was born in the same village. As they do not disgrace the pen of that poet, I will not apologize to him for requesting you to publish them with this short sketch. They will convey more forcibly to the minds of your readers, the hapless state of this long suffering victim and his family, than any words in my power to use.

THE MANIAC.

[Vide Robinson's Tyrolese Villagers, &c. page 460.]

"Behold you poor creature, that roams through the common, So form by the briar and drench'd with the rain,
He seems all bewilder'd, and car'd for by no one,
Now franticly laughing, now groaning with pain.
His head is expos'd to the blast keenly blowing;
His feet to the thorn and the thistle are bare:
Of the thorn and the thistle, unheeding, unknowing,
Distracted he roams in the cold, piercing air.
Say, has he no father, no brothers, who love him—
Who hear, and who pity the wanderer's moan?
No mother, no sister, no friend to remove him.

From the bleak wintry waste, where he wanders alone?

Yes, he has a father and brothers who love him, His sisters, for his sake, shed many a tear; From the bleak wint'ry waste they do always remove him. Yet, still he will fly from relations so dear. He's a heart-broken maniac-grief and misfortune His innocent hopes and his wishes o'erthrew; All scenes of past pleasure by him are forgotten, And madly he ponders on woes ever new. Tho' pale was the sunbeam that shone on his morning And feeble the blessing that Reason bestow'd; Yet, Hope, with her blossoms, the prospect adorning, By Innocence led, gave a charm to his road. By yonder thick alders a neat cottage rises, There once the poor soul with his parents did dwell: Each comfort was theirs, which the feeling heart prizes-Each comfort, alas! which he lov'd but too well. Adversity sometimes look'd into their dwelling: Very hard through the Summer and Winter they toil'd: . But o'er want and o'er weariness calmly prevailing, Contentment and health on the cottagers smil'd. With the fair star of morning he rose to his labours. All-cheerily whistling his task to pursue: As the dove he was gentle, and kind to his neighbours,-And his eye with a tear would their sorrows bedew. 'Twas his heart's dearest wish, when old age slowly creeping. Had scatter'd its snows on the head of his sire; When his nerves were unstrung, from the hard parish keeping. He safe in that cottage to rest would retire: Where he, the lov'd path of his duty pursuing, Most happy his parent's decline to assuage, Their daily support by his labours renewing, Hop'd fondly to foster the pillow of age. Thus, Time sped away, till their cottage was wanted, And the ground they possess'd on another bestow'd; 'T was little, indeed, yet that little was granted, To swell the increase of the rich and the proud. One May's levely morning, the dogs of oppression, When the Spring, gay advancing, humanity cheers, Bereft them of all!!- FOR THE FIEND-LIRE TRANSGRESSION, MAY THE CURSE OF THE MANIAC STILL RING IN THEIR BARS'S Resistance was fruitless! their house they surrender'd, Their sweet little meadow, and garden so trim; And the spark of his God with the shock darkly wander'd-

Though the sun did shine gaily, it shone not for him.

Now at midnight's lone hour, while the village is sleeping. Or shrinking at thunder that rolls in the air, By the lightning's red gleam, madly laughing, then weeping, He flies from his home overwhelm'd with despair. On youder lone waste, while the tempest is roaring. Where the wind sighs so hollow the rushes among a Forlorn, at the foot of the blasted thorn cow'ring, . The tale of his woes he will sadly prolong. Great Power! of all beings, the best and the wisest, Oh! suffer no longer thy creature to roam; Thy light, to a spirit that surely thou prizest, Restore, or soon waft it away to its home. Then, low in the grave, where his mother is sleeping, The turf shall grow green on his innocent breast; His brain no more frenzied, his eyes no more weeping, Escap'd from oppression he sweetly shall rest."

A MANIAC,

Born Oct. 25th
2H. 52M. A. M. 1776.

N
LATITUDE OF THE PLANETS.

\$\frac{1}{2} 2\left{16} n \rightarrow 08 n \rightarrow 132 n \rightarrow 09 s \rightarrow 234 s \rightarrow 426 s

We here insert the nativity; which exactly corresponds with the aphorism given by * Philalethes, p. 59, corrected. This correction makes the time of birth 8 minutes sooner; when the) is in exact mundane parallel of o' and in sesqui quadrate of \(\bar{2} \) in the Zodiac,—Mars being the dispositor of both the luminaries and 2 also, is placed in the 12th, or house of sorrow, and casts his mundane square upon the place of ? and ?, the latter being retrograde, and casting his mundane sextile too far below the ascendant to hehold it, according to the meaning of Ptolomy, unless we allow the ascendant to be affected by aspects in the Zodiac. Moon is wholly inconjunct with the eastern horizon, and not befriended by a single benefic ray; but, on the contrary, is afflicted by O, 9 and \. It is also to be observed, that \u03c4 is afflicted by the semi-quartile of Herschel, and \square of b; and that ? is in her detriment, partaking of the nature of o', and afflicted by his \square in the world: thus, both the fortunes are deprived of their power to give effectual relief. In short more evident testimonies of mental derangement cannot well be conceived; yet \ though supported but feebly, by the presence of Venus and the \triangle of \mathcal{I} may account for the small portion of rationality the native possessed in his youth. also amply attests the fine texture of his feelings and the goodness of his heart.—Reason, in fact, gleamed dimly till the) and ascendant came to the following train of dreadful directions, without one single benefic ray to abate their effects.—These we leave our scientic Correspondents to calculate at their leisure.

			Yrs.	M.
) ad & h in the world no. about -	-	-	30	0
Hor. ad sem-quar: 9 and MC ad idem.		-	30	0
Hor. ad sem-quar: 9 MC ad id:	-	-	.30	6
) ad \square 4 Zod:) ad semi-q. Her. mund. DD.				
ad semi-quar: Herschel Zod: -	-	-	32	0

> being in a cardinal sign, in a nocturnal nativity, and of in Virgo.

	•				
	•	-	-	3 2	Ò
the 4th.	-	-	-	35	6
	_	-	-	37	0
<u>.</u> -	· 🚗	-	•	37	0
		the 4th	the 4th	the 4th	32 1 the 4th 35 37

Among this direful train not a benefic ray fell in. It is also worthy of notice, that b is radically in mundane semi-quartile to the horoscope, and in ssq: to the MC. and, as above stated, the) weak and afflicted, so that whether we take her or the horoscope as having supremacy over life, the vital principle was not strong. He would have died, we should suppose, in infancy, if the degree rising had not been within about 3° of the mundane \times of $\mathcal V$ or at about 20yrs. old, from the same point to the $\mathcal S$ of the Moon; but the benefic rays of that planet again fell in and saved him.

To the Editor of the Monthly Correspondent.

SIR,

OBSERVING in your Prospectus that some parts of your publication are to be devoted to QUERIES, I send you the following Paradoxes, which I shall be obliged to any of your Correspondents to solve.—

- 1. There is a certain place upon the Earth, above whose horizon Saturn is 15 years together; and there is another place of considerable distance from the former, the inhabitants of which have Jupiter nearly six years above their horizon without once setting during the time.
- 2. There is one certain place in the universe where the planets, both inferior and superior, may be constantly seen to move forwards in the same regular and uniform manner, though to most places of the Earth they appear at the same

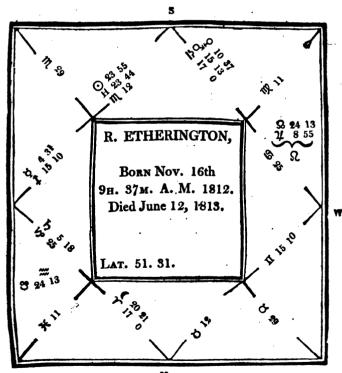
time to move very unequally; and sometimes they seem to run back, and at other times not to move at all.

3. There is a remarkable place upon the globe where all the planets, notwithstanding their different motions and various aspects, do all bear upon the same point of the compass.

With best wishes for the success of your undertaking, which seems equally bold and arduous. I am, Sir,

Your humble servant, E. M.

GREENWICH, Jan. 18, 1814.



This nativity, elucidating the causes of a short life, was transmitted to us by that ingenious and profound mathematician, Mr. James Wright, who having obtained the moment of birth correctly, predicted the termination of the child's existence within the year; for which he assigns the following reasons:—

⊙ and Herschel in o, and nearly in mundane semi □ to the ascendant.

The same planets in mundane sesquiquadrate to the Moon, and in semi \square to σ .

The Moon nearly opposed by \circlearrowleft , and angular, \circlearrowleft being in \simeq , with north latitude, is nearer to the meridian than he appears to be; and the \circlearrowright in Υ also, with north latitude, is placed nearer the cusp of the north angle. Mars is therefore 99 mundane degrees above the angle of the west, and the Moon in reality 99° below it; forming, by this position, in exact mundane * parallel with that malefic.—The child died at the age of 6m. 27d.

To the Editor of the Monthly Correspondent.

R. ETHERINGTON,

SIR.

As the positions of the planets and their aspects with the luminaries are the causes why the seasons differ so exceedingly from themselves, it may be amusing to some of your Correspondents to look back to the times as specified below, when very severe frosts have taken place, and to observe what analogy the face of heaven at one period bears to the face of heaven at another period. I would particularly ask, in what part of the Zodiac the planet Saturn, who is designated the author of cold, was posited at those particular periods?

Yours, &c.

P.

^{*} The meaning of this is,—supposing the diurnal or nocturnal are to be divided into 90 parts, whether they are small or great, the planets form a proportional distance, and partake of each other's power, when one is above and the other below the horizon; or, if they are placed on opposite sides of either the upper or lower part of the meridian.

In A. D. 220, frost for 5 months.—In 250, Thames frozen 9 weeks. 291, the rivers frozen 6 weeks .- 359, severe frost in Scotland 14 weeks .-508, the rivers frozen 2 months.-558, the Danube frozen over -695, Thames frozen 6 weeks, and booths built on it.—759, frost from 1st Oct. to 26th Feb. 760.—827, frost in England 9 weeks.—859, carriages used on the Adriatic Sea. 908, rivers in England frozen 2 months, 923, Thames frozen 13 weeks. 927, frost 120 days, began Dec. 22d. 998, Thames frozen 5 weeks.-1035, a severe frost June 24th, the corn and fruits all destroyed .- 1063, Thames frozen 14 weeks .- 1076, frost in England, from Nov. till April.-1205, frost from Jan. 15 to March 22.-1407, frost for 15 weeks .- 1434, from Nov. 24 to Feb. 10, Thames frozen down to Gravesend.—1683, frost for 13 weeks.—1708-9, a severe frost all over Europe, except Scotland and Ireland.—In 1715-1739-1742-1754, and 1776, severe frosts in England.-1788, Thames frozen and booths erected on it.-

Encyclop. Perthensis.

Notices of New Publications.

MR. CHARLES TURNER, Author of "The Orphan, and other Poems," intends, on the 22d of this month to publish, for the Enter-tainment and Improvement of Youth, embelished with four wood cut Engravings, by Berryman, an interesting Tale, entitled "THE. PARSONAGE.

Review of Scientific Books.

Lunar Observations, denoting the Influence of the Moon on the Winds, by her Impulse on the Earth's Atmosphere, &c.—By Sol. G. Da Costa, pp. 51.

 ${f T}$ HIS truly ingenious and useful little work was put into our hands. too late in the month for elaborate observation. We have, however, read it with the attention a pamphlet of so much importance requires, and do not hesitate to say, that the observations of the author are consistent with reason, and that great public good may result from the circulation of them. We therefore recommend the perusal of the book, not only to those who know how to appreciate the value of the noble sciences it treats of, but to readers of a less learned description, particularly those whose constant occupation it may be to plough, either the world of waters, or the soil of their lands.—The pamphlet is addressed to earl Stanhope, to whom he savs-

"The object of the following pages is to illustrate the fact that we live in a sublunary world;—the elements clearly tell us so;—the animal economy governed by those elements proclaim it; -and, however paradoxical it may seem, the earth sensibly proves herself to be immediately under the agency of her own satellite; but with an innate spirit peculiar to an inhabitant of the only spot on the surface of the earth where despotic sway must come under revision, under whatever form it may appear, your lordship has boldly disputed this foreign ascendancy on our birthright-air and water-in the construction of a vessel that shall sail and make way against both wind and tide. I trust I may fairly call upon your lordship as the only authority capable of explaining to the world how this wonderful phenomenon of the lunar influence may be more clearly understood. Congratulating your lordship on the success of your experiment, I hail the gratification it will afford me (if your lordship will condescend to take up the subject), should my discovery be introduced to public notice through your lordship's countenance. I shall consider myself as truly fortunate, if having led to the unfolding a seeming mystery of Providence, assisted by your lordship's more enlarged comprehension, I may have laid the basis of" we should say, opened an avenue for, "some new ray of light to a subject so interesting and useful."

Mr. Da Costa opens his subject by stating,

"On my homeward voyage from Jamaica, better than four years ago, when off the chops of the Channel, the wind due east, blowing strong, we took soundings, which continued at least twelve days; but, before the whole of that time, our captain declared he would rather have been where he was a week before coming there, than in the situation he was then in a that, had he known what wind he should have had, he could have well avoided the delay he then suffered; adding, that his hopes rested on the change of the moon, which was just approaching to the full."

As the ingenious author is a foreigner, we would not be severe upon him; but, certainly, a more attentive observance of the idiom of the English language would have made the above paragraph some-

thing less obscure. He thus proceeds:-

"At the third day of the change the wind shifted to the south-west, when we proceeded up Channel. The circumstance, as just stated, made a strong impression on my mind, and gave me the idea of first conceiving, that if it rested with the moon to produce a change of the wind, something might be discovered in the appearance of the moon to denote that change. I also thought that if such indication could be understood, a very great advantage to navigation might be achieved; and, with this sole object in view, I have ever since unremittingly observed the moon through all her lunations, and have at length arrived at such conclusions as my firm belief will warrant me in asserting, are unerring."

He afterwards states his persuasion, that he has attained a step higher than any who have devoted their entire labours to the study of astronomy, to be so strong, as to make him impatient to communicate his discovery; that he has, therefore, resolved on publishing it for the benefit of the human race, and with the hope, that his country and posterity will render it the justice it is deserv-

ing of.

In looking over this pamphlet, when we came to the bottom of page 21, which will be quoted hereafter, we with some difficulty kept our risible faculties in due subjection, while reading of the different position of the head and limbs of the man in the moon a set poking his head under a shroud of moonshine; and of his being adorned with spots on his shoulders. Upon exercising our reason, however, we found abundant cause to admire that which, at the first glance, we were inclined to laugh at.—R.

JANUARY 1811.

-		_	~~	_				_	_	_	_	-		_		_		_	-	_			
M D	Place o noo		's	h lat	's it.	1/ lat	's it.		''s tit.		's tit.		itit.	de	h's clin.		μ's clin.	dec	lin.		P's clin.		's lin.
1 7 13 19 25	0	my :	29 10 51 52 13	1 11 1 1 1	17 16 16 16	0 s 0 0 0	57 55 54 59 50	1 1 1 1 1	29 29 29 28 28 27	41 5 5 6	17 17 56 12	2 1 0 01 2	42 50 36	21 21	53 5 5 5 8	17 17	16	10 11 12	44 51 54	19 18 17 17	32 16	23 2I 18 15	s 31 13 16 22 48
M D	longu		e.	dec		Clo	_	lon)'s git.		's tit.)'s lin.		ի's ngit.	lo	μ's ngit.	lon	ej's		?'s igit.		's git.
1 2 3 4 5	11 12 13 14	16 - 17 : 19	48 56 9	22	59 54 48 41	3 4 4 5 5	42 10 88 6 33	ا8 15 14	744 17 531 28 12	0 : 1 2 3 4	35 35 39 39 14	1 1 5 9 12 15	42 32 49	20 20	27 3 4	21 21 21	845 R42 40 37 35	2 9 29	չ32 6 3 9 112 45		948 R19 33 6 86	24 26 28	920 57 33 7 40
7 8 9 10	16 17	22 23 24	28 38 46 54	22 22 22 22 22 22	35 27 20 12 3	6 6 6 7 7	0 28 59 19 42	22 49 16	144 7 521 27 27	4 4 5 4	0 47	17 18 18 17 16	15 24 42	20 21 21 21 21		21 21 21	' 32 30 28 27 26	1 2 2 3	18 51 24 57 29	2 1 1 0 0	7 3 9 12 48 2 7	1 % 2 4 5 7	#13 45 15 43 8
11 12 0 14 15	22 23	28 29 30	30	21 21 21 21 21 21	54 45 35 25 14	8 8 8 9	6 30 53 15 37	31 15	21 10 759 48 43	3 2 1 0		14 11 8 4 0	18 6 35		28 34 40 47 53	21 21 21	25 24 23 23 23	4 4 5 5 6	7 39	29	9 1 54 49 25 19	8 9 11 12 13	30 49 4 14 18
16 17 18 10	26	33 34 36	48 54 59	21 20 20 20 20 20	40 28	9 10 10 10	58 18 38 57 16	22 41 17	≥48 9 149 54 129	1 2 3 3 4	4 3 54	6 10			6 12 18	21	D23 23 23 23 23 24	6 7 7 8 8	43 15 47 19 51	29 29 29 29 29	D 2 5 12	14 15 15 16 16	16 7 50 24 48
21 29 23 24 25	1 2 3	40 41	7 11 14 16 16	20 19 19 19	35 21	11	33 50 6 22 36	0v 15	33 9 6 3 ≈16	4 5 4 4 3	5 52 18	17 18 17 15 12	22 46 55	22 22 22 22 22	36 42 48			9 10 10	22 54 25 5 7 28	29 22 29 29 29	48 58		1 R 3 53 32 1
36 39 30 31	6 7 8	18 18 18 18 17	21 5 49	13 13	15 26 36	15 01	41 14 14 22 4 20	2 1 0 1 2 3	31 38	4	9 n 17 20	23 23	12 17 23		34 37 39 42	13	59 30 0 31 1 32	0 0 1 1	38 58 22 49	15 14 13 12 11	20 28 26 17 6 35		
					Т	HE	G	EO	RG	IAI	٧,	OR	N	ΕV	V P	L	ANE	T.					
_		Lo	ng	itu	le.			_		-	atit	ude	·.					-	e c li	nati	ion.		_
1-	M 1st	- -		ţh	-	215			M 1	- -	11		-	21		-	M 1	- -	11		- -	218	
117	M 4	1	8	5		18	24	0	n 2	1	0	21	1	0	21	-1	6 s 4'	7	16	55	<u> </u>	7	0

FEBRUARY 1811.

M	Place	de.			o's tit.		Ļ's		j's tit.		2's tit.		itit.	de	h's		4's clin.	de	s'is		?'s lin.		₽'s clin
1 7 13 19 25	28 28 28 27 27	m	51 32 13 54 35	1 1 1 1 1	n 16 16 17 17	0 0 0 0	s 49 47 45 44 43	1 1 1	n 26 25 23 21 18	5 5 4 4 3	n 51 26 55 21 45	3 2 0	n 38 17 11 57 s 8	22 22 22	3 4 5	17 17 17 17 18		15	52 40 23	17 17 18 18 18	.18	1 -	8 3 2 4 2
M	longi)'s	le.)'s lin.		ock . O)'s igit.)'s tit.	dec)'s lin.		'n's igit.		¥'s ngit.	loi	β's ngit.		egit.		⊉'s ngit
1 0 0 4 5	12 13 14	48 49 50 51 52	41 31 19	16	41 24	14 14	3 10 16	19	15 15 15 27 29	4 5 5 4	50 6 8	14 16 17 18 17	43 57 19	23 23 23 23 23	40 45 50	21 21 21 21 21 22	55 59	151 15 16 16 16	n 2 32 32 32 2	3 4	947 18 50 23 57	7	R31 23 13 23
67890	17 18 19	52 53 54 54 55	50 33 15 55 35	15 15 14	47 29 10 51 32	14 14 14	29 32 34	19	26 19 9 759 49	4 3 3 2 1	56		40 6 2	24 24 24 24 24 24	5 10 15	22 22 22 22 22 22	11 16 21	17 18 18 18 19	32 1 30 59 27	6	39 8 45 24 5	3 2 2 1 1	3: 5: 1: 5: 3:
11 12 13 14	22 23 24	56 56 57 57 58	13 49 24 39 32	13 13 13	13 53 33 13 52	14 14 14	36 35 33	18	44 54 54 16 56	2	10 56 0 59 51	1 5	34	24 24 24 24 24 24	30 35 40	22 22 22 22 22 22	41	19 20 20 21 21	21	8 9 10 10	47 30 14 59 45	1 1 4 4 1	D2: 2: 3: 5:
16 0 18 19 20		53 59 0 0	34	11	32 11 50 29 7	14 14	24 19 14	10 24	23 15 23 15 234 17	4 5 5 5 4	14 7	15 17 18 18 16	3 7 4	24 24 24 25 25	54 58 2	22 23 23 23 23 23	5 11 17	22 22 23 23 24	43 11 38	12 13 14 14 14	39 19 7 56 45	2 2 3 4 4	4: 4:
21 22 23 25	2 3 4 5 6	1 1 2 2 2 2	22 45 7 26 44		46 24 2 40 18	13 13 13	1 54 46 38 29	23 8) 23	%19 31 €44 47 733	3 2 1 0 1 8	51 35 14	14 11 6 2 21	0 50	25	14 18 29	23 23 23 23 23 23	44 51	24 24 25 25 25 26	23 49	17	35 26 18 11 5	5 6 7 8 9	29
26 27 28	7 8 9	3 3 3	0 14 20	8 8 8	56 33 11		19 9 58		53 147 14	2 3 4		6 10 13	32	25 25 25 25		24 24 24	13	26 27 27		20 21 22	59 54 49	10 11 12	18
1	47.53				TE	Œ	GI	OI	i GI	AN	0	R	NE	w	PL	A	VET				-		-
		L	ong	itud	le.			1		L	atit	nde.	1					D	ecli	nati	on.		_
	1st.		11	th.	1	21st	4.0		st.		11	th.	1	21st	2.1	1	st.		11t	h.	2	1st	
1	8M40		18	49	1	8	52	0	n 2	1	0	21	1	0	21	17	s :	3	17	6	17	(1)	7

MARCH 1811.

N	Place		h lat		4's latit		or'! lati	t.		's it.		's itit.		y's clin.		μ's clin.	de:	''s :lin.		?'s tin.	dec	's lin-
125	27 27 26 26 26	咬 22 3 44 25 6	1 n 1 1 1	18 18 19 19	0 3 0 3	15.00	1	16 12 8 3	3 1 2 2 1 0	1 21 44 7 32 59		s 45 30 0 16 16	22 22 22	6	18 18		18 19 19 20 20	s 29 3 33 1 25	17 16 15	8 5 36 52 49 31	15 13	31 56 38 25 31
M D	longi)'s t ude.	deci		Cloc bef. ()'s longi	. 1	lat	's tit.		's lin.		o's igit.		L's igit.	on lon			's git.	lon,	's git.
04 5	₩10 11 12 13 14	3 6 3 44 3 49 3 53 3 54	7 s 7 7 6 6	25 3	12 3 12 2 12	5.5 9.6	28 10 9 5	55 16	4 5 5 5 4	7		33 11 57		43 46 49	24 24 24 24 24 25	329 37 45 54 2	28 28	18 41 5 28	24 25 26	41 38 45	132 14 15 17	37 50 6 28
6789	15 16 17 18 19	3 53 3 49 3 44 3 37 3 28		53 30 7 43 2 0	11 2 11 1 10 5	389	977	2 51	4 3 2 1 0	10 25 31 30 25	12	52	25 26 26	59 2	25 25 25 25 25 25	10 19 28 37 46	29 0, 0 0	59 37 59 21	28 29 02 1 2	29		41 59 19 41 5
11 12 13 14 15		3 17 3 4 2 49 2 32 2 14	3 3 3 2 2	57 33 9 46 22	10 1 9 5 9 3	3	10 11 6 58	55 17	0 r 1 2 3 4	42 47 49 44 28	0 4 8 11	37 14	26	12 14 16	25 26 26 26 26 26	55 4 14 23 33	1 2 2 2 3	43 5 26 47	3 4 5 6 7	27 28 29 30 32	29	31 59 27 €56 27
15 18 19 20	25 26 27 28 29	1 54 1 39 1 9 0 43 0 16	1 1 0 0	59 35 11 47 24	8 4 8 2	9	6.7 20 31/9: 18 2/#:	12 56 1	5 5 4 4	0 16 15 55 17	18 17	51 9	26 26	20 22 24 26 28	26 27 27	43 53 3 13 23	3 3 4 4 4	26 46 5 23 41	8 9 10 11 12	34 36 39 42 45	3 5 7 8 10	59 32 7 43 20
21 22 23 025	2 5	59 47 59 17 58 45 58 10 57 34	0 n 0 0 1	0 24 47 11 35	7 1 6 5 6 3	5 7 8	ıγ	51	3 2 0 0 s	21 11 52 30 50	12 8 4 0 4	3º 45 24 n 13 46	26 26 26	30 31 33 34 35	27 27 28	34 44 55 5 16	4 5 5 6	34 50	14 15	48 51 54 58 2	13 15	59 39 20 3 47
26 27 28 29 30 O	6 5	56 14 55 31 54 46 53 59	1 2 2 3 3	58 22 45 9 32 55	5 4 5 2 5 4 4	4	2 8 11 II 9	45 19 28 13	3 4 5 5 5		15 17 18	29 15 7 3		36 37 38 39 40 41	28 29 29	27 38 49 1 12 23	6 6 7 7 7	21 36 50 4 18 31	21 22 23	6 11 16 21 26 32	24 25 27	32 18 6 55 46 58
				T	ie (31	EOR	GI	AN	, (OR	N	EW	P	LA	NE7	г.					
_		Long	tude	··					I	atit	ude	e .		_			D	ecli	nati	on.		
	lst	11			21st	-	ls	_	_ _	llt		·	21 s			st	- -	11t			lst	_1
180	MR51	180	44	18	33	1	0 n	21	10	<u> </u>	21	0	2	11	17*	6		17	4	17	1	

APRIL 1811.

M D	Plac	eof			h's	lat	l's it.	lai	it.	lat	's it.	1:	ğ'i	s t.		h's clin.		L's lin.	de	s's		2's lin.	4	ĕ's clin.
1 7 13 19 25	25 25 25 25 24 24	双	43 24 5 46 27	1 1 1 1 1	n 19 20 20 20 20 21	0 8 0 0 0 0	36 35 34 33 32	0 0 0	39 29 17 3	0 n 0 s 0 0	22 6 32 54 13	0 0	n 4	18	22 22 22 22 22 22	5 5	19 19 20 20 20	46 1 17	20 21 21 21 21 21	s 50 9 25 40 52	10 8 6	s 38 46 42 26 2	9 15	
M D	long	's itu	de		o's	Clo bef.	ck O	lon	's git.	lat	's it.		D's			h's ngit.		L's git.		j''s igit.		's git.		j's ngit.
12345	13	52 51 50 49 48	17 22 25 26 24	4 5 5 5	18 42 5 28 50	4 3 3 3 2	10 52 34 16 58	05 12 24	547 245 35 24 114	4 5 4 3 2 1		15 13 10	3	18 45 32 46 33	26 26 26	‡ 41 42 42 R42 R42	29 29	38 47 58 110 21	7 8	‡ 44 56 8 19 29	26 27 28	#38 44 50 51 € 2	5 7	731 25 21 19 19
608910	17 18	47 46 45 43 42	20 15 7 57 45	6 6 7 7	13 36 58 21 43	2 2 2 1 1	22 4	12 24	10 14 29 57 138	0 0n 1 2 3	28 32	3	s 3	19	26 26 26 26 26 26	42 42 41 41 41	0 0 0 1 1	33 45 57 9 21	88899	38 47 56 5	1 1 3 4 5	16 23 30	11 13 15 17 19	19 20 22 25 30
11 12 13 0	20 21 22 23 24	41 40 38 37 36	31 16 58 40 19	8 8 8 9 9	5 27 49 11 33	1 0 0 0 0	58 42 26	31	32 41 3 938 26	4 4 5 5 4	50 10 13	13 16 17 18 17	4	9	26 26 26 26 26 26	40 40 39 38 37	1 1 2 2 2	33 45 58 10 23	9 9 9 9 9	18 24 29 35 37	6 7 8 10 11		23 25 27	36 49 48 55
16 17 18 19 20	25 26 27 28 29	34 33 32 30 29	41	10	54 15 56 57 18	0a 0 0 0 0	34 48	28 122 26 11) 25	53	4 3 2 1 0	36	16 13 10 6 1	1	35 10 6	26 26 26 26 26 26	36 35 34 33 31	2 2 3 3 3	35 48 0 13 25	99999	43 45	12 13 14 15 16	23 31 39 47 55	6 8	14 19 23 26
O 22 23 24 25	წ 0 1 2 3 4	27 26 24 23 21		11 12 12	39 59 19 39 59	1 1 1 1 2	35	24 8 22	18 37 548 40 111	1 s 2 3 4 4	30 33	7 11 14	1	5	26 26 26 26 26 26	30 28 27 25 23	3 3 4 4 4	38 51 4 17 30	99999	45 43 40	18 19 20 21 22	11 20 29		21 21 14
26 27 0 29 30	7 8	19 18 16 14 12	42 1 17 31 44	13 13 14	19 38 57 16 35	2 2 2 2 2 2	23 33	19 20 14 26 85	20 5 8 35 46 44	5 5 4 4 3	8 53 25	17 18 17 16 14	1	818	26 26 26 26 26 26 26	21 19 17 15 13	4 4 5 5 5	43 56 9 22 35	9 9 9 9 9	27 21 14	23 24 26 27 28	46 5 14	21 23 25 26 28	51 35 15 59 24
					7	HE	G	EO	RG	IAI	V	OR		N.	EW	7 P	LA	NE	т.	l!	1		1	
		L	ongi	tud	e.			I		La	titu	ide		1		-			D	ecli	nati	on.		_
	1st.	1	111	h.		21st	141	1	st.	T	11	th.	1	9	21st		8	st.	10	Ilt	h.	1 9	21 st	:
18	m 1	5	17	56	1	7 3	3	0	n 22		0	22		() ;	22	16	s 56	1	16	51	16	; 4	14

MAY 1811.

M D	Place n	eof (y's tit.	lat	's it.		r's tit.		?'s tit.		첮's atit.		ly's clin.		μ's clin.		or's clin		Q's clin,		clin. β's
1 7 13 19 25	24 23 23 23 23 22	쨏	.8 49 30 11 52	1 1 1 1	21 21 21 21 21 21	0 s 0 0 0	31 30 29 29	0 0 1	30 49 8 27		s 29 41 49 54 56	2 2 1		22 22 22	3 2 2	21 21	n 47 1 15 28 41	22 22	13 12	1 3 6	s 39 n - 39 15 49	24 24 23	n 3(2(3) 51
M D	long)'s	le.)'s lin.	Clo		lon)'s git.)'s tit.	de	D's clin.		ի's ոgit.		¥'s ngit.	lo	ייכ ngit.		Q's ngit.		ţ's igit.
1 2 3 4 0	810 11 12 13 14	9 7 5	2	16 15 15	n 5 3 11 29 47 4	2 3 3 3 3	7 15 21	20⊊ 2 11 14 26 8 ±	725 16 16	2	10	8 5 1	44 17	26 26 26	3		II 49 2 16 29 43	9888	1 0 R52 43 33 22	0' 1 3	₹33 Υ4 2 51 0 10	1 2 3	53 11 20 40 54 5
6 7 8 9 10	17	59 57 55 53		16	21 38 55 11 27	3 3 3 3		311	53 136 37 55 29	2 3 4 4, 5	38		44 59 38	25 25 25 25 25 25	55	6 7 7 7	56 10 23 37 51	8 7 7 7 7	10 57 44 30 16	5 6 7 1	20 30 40 50	6 7 8 9 9	13 17 16 10 59
11 0 13 14 15	20 21 22	50 48 46 44 42		17 18 18	43 58 14 28 43	3 3 3 3		11 k 25 92	15 11 14 20 18	5 4 4 3 2	5 3 23 3 7	18 16 14 11	7 47 26	25 25 25 25 25 25	43 40 37 34 30	8 8 8 8	4 18 9 2 45 59	7 6 6 6 5	1 45 29 12 55	14			43 23 59 30 55
16 17 18 0 20	25 26	3 5	49 34 18	19	57 11 25 38 51	3 3 3 3	58 56 54 59	5γ 19	45	1 0 1 2 3	29 14 11 12 14	7 3 1 5 9		25	27 23 20 16 13	9 9 9 10	13 26 40 54 7	5 5 4 4	37 19 0 40 20	18 19 2 0	10 21 32	13 13	15 30 41 47 R49
21 22 23 24 25	1 2	28 26 24 21 19	41	20 20 20	3 16 28 39 50	3 3 3 3	49 45 41 36 81	i I 14	24 24	4 4 4 5 4	39 59 2 59	17 19	50 36 24		5 1 57	10 10 10 11 11	21 35 49 7 13	4 3 3 3 2	0 40 20 0 39	25 26	59 13 24 35	13 13 13	45 37 25 9 49
© 27 28 29 30 31		14 12 9 7	54 28 1 32 2	21 21 21 21	1 12 22 32 41 50	3 3 3 2 2	13 6	49 16 28 1019	38 29	4 3 3 2 1 0			40	24	45	12	30 44 58 19 26 40	2 1 1 0 0	18 57 37 16 56 35	28 29 13 2 3 4	45 56 7 18 29 40	11 11 10 10	25 59 30 59 27 54
					T	iE	GI	EO1	lGI	AN	Ι,	OR	N	EV	V P	LA	NE'	r.					
_		Lo	nġi	tud	le.		_			L	atit	ude						D	eclir	ati	on.		
1-	M 1s	- -	111		_	21st	-1	D N		- -	111		_ _	21			M 1s	- -	11t		·	21s	
17	m	<u>د ا</u> ا	16	43	1	6 1	9	0 1	n 2:	2	0	21		0	21	16	s 37		16	30	1	6	23

JUNE 1811.

M D		e of			o's tit.		.'s ti t .	o la	''s tit.		's tit.		's itit.		o's clin	de	μ's clin	de	7's clin.	. de	Q's clin.	de	ÿ's√ clin.
1 7 13 19 25	22 22 21 21 21		30 11 51 35 13	1 1 1	n 21 21 20 20 19	0 0 0 0	28 27 27 26 26	1 2 2 2 2	s 49 21 33 43	1 1 1	s 55 50 43 33 22	3 4 4	16	22 21 21 21 21 21	58 58 57	21 22 22 22 22	15 24	22 21 21 21 21	51 42 36	11 14 16 18	3	17	n 24 41 0 28 50
M D	long	Ö.			o's din.		ock O	lon	's git.		's tit.		's clin.		's igit.		μ's ngit.	l _u i	's git.		γ's igit.		پن ugit.
0 3 4 5	11 12	59 56 54	50	22	n 5 9 7 15 2 2 2 9	2 2 2 2	24 15	16 28	26 59 154 11	2 2	58 48 27	8 11	37 21 48	24	R21 17 12	13	22 36	291	# 15 M 55 R 35 85 56	8	51 2 13 24 35	8 8 7	II 20 R47 15 43 13
6 7 8 0 10	15 16 17	16 43 41 22 48 1 17 41 1 22 53 1 18 38 20 22 59 1						22 71 21	1 49 47 19 0 22 247	4 5 4 4 3	51 23		15 26 26	24 23 23 23 23 23	55 51	14	4 18 39 46 0		19 1 44	11 12 14 15	46 56 9 20 31	6 6 5 5	4(25 45 31
11 12 13 14 15	20 21 22	32 30 27	16	23 23 23 23 23 23	3 7 11 15 18	0 0 0 0	59 47 35 23 10	18 2γ	10 {28 38 39 39 3 0	2 1 0 0 2	39 30 17 57 7	8	29 15 n 11	23 23 23 23 23	38 33 29	15 15 15 15	14 28 42 56 10	26 26 26	55 40 25	17 18 20 21 22	42 54 6 17 28	5 5 5 5 5	21 16 D16 20 28
0 17 18 19 20	24 25 26 27 28	22 19 16 14 11	26 43	23 23 23 23 23 23	21 23 25 26 27	0 0 0 0		13	3 12 45 7 I 17 14	3 4 4 5	34 55	12	11 5 9	23 23 23 23 23 23	11 6	16 16 16 17	24 38 59 5 19	25	58 46 35 24 14	24 26 27	40 52 4 16 27	5 6 6 7	41 59 21 48 15
21 22 0 24 25	29 25 0 1 2 2	8 5 3 0 57	48 3 18	23 23 23 23 23	28 28 27 27 26	1 1 1 1 2		18	28 28 44 48 43	4 4 3 3 2	51 27 51 5	17	47 15 2	22 22 23 23 53	58 53 49 44 40	17 18 18	14		5 57 50 43 37	29 11 2 3 4	39 151 3 15 27		55 35 20 9
26 27 28 25 O	4 5 6	54 51 49 46 43	59 19	23 23 23 23 23 23	24 25 20 17 14	2 2 2 2 3	3F 5(6¶ 18 0Ω 12 24	19	1 0 0 n 1 2	19 10 53 54 52	8 4 0 3 6	28 44	5 5 55	35 31 27 23 19	18 19 19	55 8	24 24	32 28 25 22 20	5 6 8 9	51 3	14 15	0 1 6 15 29
					TH	E	GE	OF	lGI	AN	, ()R	NI	EW	P	LA	NE7	r .			·'		
		Lo	ngi	tud	e.	**				Ļ	atit	ude	•]	-	.,	D	ecli	nati	on.		
I	lst M 9	-	11t 6°		16	21st	-	1 n		- -	l l t		_	elst n 2	-		st s 16	<u> </u> -,	111		16	lst	-1

JULY 1811.

i			ceo nod	f) ' e.	8]	ի's atit.		l's tit.	l	o''s ati t.	1	Q's atit.			it.	de	ђ's eclin	. d	¥.s eclin	.de	o's eclin	.de	Q's eclin	de	Ŭ's clin.
	9	20 20 19 19))	7 54 34 16 57 38	5 1 5 1	n 19 18 17 17 16	0 0	s 25 25 25 24 24	3	2	0 0	54 39 23	9	0	58 15 11	121	54 54	1 29	2 50 2 55	21 21 21 22 22	59 19	7 21 3 22 2 23 2 22	45	20 23 23 23	n 41 27 28 6
N D	٠.		⊙'s gitu	ıde.		⊙`s cli a .		ck. ⊙		D's git.		D's	d		's in.		ի 's ոgit		¥'s ngit.		ار ngit		γ's ngit.		ÿ's ngit.
3 4 4	2	10 11	37 35 32	59 10	55 53 53	n 11 7 2 58 59	3 3 3 8	14 26 37 48 59	20 3 17	ጥ 2 0 124 15 ም10	3 4 4 5 4	23 51	1 1	3 6 7	32 6 49	22 22 22 22 21	R10	20 20	16 29		D19 20 21		5 l 3 15	17 19 20 22 23	1147 6 31 1 34
00000		14 15 16	26 23 21 18 15	54 5 17	22 25 52	47 41 35 28 21	4 4 4 4	9 19 29 38 47	15	38 38 €23 58	4 3 2 1 0	32 48 49 39 22	1:	6 3 9	0 17 28 49 31	21 21	50 46 42	20 21 21 21 21 21		24 24 24	32 38 44	17 18 20 21 22	39 52 4 16 28	26 28	10 49 32 518
11 12 13 0 15		18 19 20 21 22	12 9 7 4	54 8 22	21	13 5 57 49 40	4 5 5 5 5	12 19	131 27	19 724 12 344 1	0 2 3 4 4	6	1	7 1	6 21 33 15 19	21 21	31 28 24	22 22 22 22 22	2 15 28 41 54	25 25	57 4 12 21 31	24 26 27	31 54 7 19 21	4 5 7 9	1 56 58 59 54
16 17 18 19 20		23 24	56 53 50	9 26 43	21 21	30 20 10 0 49	5 5 5 5	4 4 4 9	19	55 533 59 14	4 5 4 4 3		18 18	3	29	21 21 21	14 11 8		7 20 33 46 59	2 6 2 6	42 54 7 20 34	299 0 2 3 4	57 10 23 35	16 18 20	59 5 11 17 24
O 22 23 24 25	1	28 29 0	45 42 40 37 34	40 0	20 20	38 26 14 2 50	5 6 6 6	~	21	20 16 16 53 40	3 2 1 0	13 20 20 20 17 146	14	2	42	20 20	59 56 53 50	24 24	11 24 36 49	27 27	49 4 20 36 53	5 7 8 9		24 26 28 057 2	32 40 47 54 59
8 8 O 8 8 5		3 4 5 6	24 21	2 24 46 8 31 55	19 19 18 18	37 24 10 56 42 28	6 6 6 6 6	7 6 5	20 211 5	31 31 45 18 14 37	1 2 3 4 4 5	49 47 39 22 53 9	5 9 12		43 26 0 16 2	20 20 20 20 20	47 44 42 39 36 34	25 25 25 26	14 9 26 9 38 9 50 9 14 9	28 28 29 29	11 29 48 7 27 47	13 14 15 16	53 6 19 32 1 45 1 58 1	3	4 8 10 11 11 10
						TI	Œ	GI	0	RGI	AN	ι, (01	R	N	EW	7 P	LA	NET	r.					
Ŀ			Lo	ngi	tud	е.					L	atiti	ud	e.						De	elina	tio	n.		
 	lst	_	-	11t			lst			st	_	11tl		_		st	_ _		st		11th			st	_
15	M	_ 1	1	4	52	14	47	1	0 n	21		0 9	50		0	2	0 1	6°	s 2′	1.	5 8	9	15°	5	

AUGUST 1811.

71	Place noo) 's	Ь lat		- 4 lat		o lat	's it.		's tit.		پ 's itit.		þ's clin.		⊈'s :lin.	dec	"s lin.		's lin.	dec Ş	's lin.
1 7 13 19 25	19 18 18 18 18	- •	16 57 88 19	1 n 1 1 1	14 13 12 11 10	0 s 0 0 0	23 23 23 22 22	3 s 3 s 3 s 2 s	3 0 58 55	0 0 0 0 0	n 11 26 39 52 3	1 0 0	2:	3 21 7 21 1 21	54 55	23 23 23 23 23 23	3 5 5		38 6 32	22 1 21 19 18 16		13	22 23 7 50 43
M D	longi)'s tud	le.	dec	's in.	Clo bef.	ck O	lon	's git.)'s tit.) ' s clin		Ҕ's ngit		Ļ's igit.		's git.		's git.		's git.
1 × 3 O 5	9	13	44 10 37		13 58 42 27 11	6 5 5 5 5	48	9V 24	28 P47 29 ≈27 33	5 4 4 3 2	49 10 13	18 18 17 14	4	5 20 3 20 9 20 8 20 5 20	26	26 26 26 27 27	II 26 38 49 1	0 0 1	30 52 14	20	24 37 50	175 19 20 22 24	7 4 57 48 38
6 7 8 9 10	14		3 34 7	16 16 1 6	55 38 22 4 47		37 31 24 16 8	24 9γ 23	(38 32 10 27 322		44 s 38 55 4 0	6	4. n 5	8 20 2 20 2 20 6 20 2 20	20 18 16	27 27 21 27 28	24 36 47 59 10	2 3	24 48	25 26 27 28 05		26 28 01 1 3	27 15 V 1 46 29
0 12 13 14 15	17 18 19 20 21	48 46 44	31 11	15 14 14	30 12 54 36 17	4	50 40 30		54 1 6 59 35 258	5 5	5 14 7	13 15 17 18	5 3	9 20 9 2 0 7 20 1 2 0	12 11 10	28 28 28 28 29	21 32 43 54 5	4 4 5 5	29 56 23 50	5		5 6 8 10 11	11 51 28 4 40
16 17 0 19 26	24 25	37 35 32	20 6 54	13 13 13	58 40 20 1 41	4 3 3 3	31		10 13 9 59 24 6	2	27		2 5	1 20 3 20 3 20 3 20	7 6 6	50 50 50 50 50	16 27 38 48 58	7	18 46 14 43 19	10 1 1	15	14 16	15 48 19 48 16
21 22 23 24 O		26 24	24 17 11	12 11	29 9 41 21	3 2 2 2 2 2	50 35 20	23 5± 17 29 11¶	33 ≥21 15 17 132	1 2 3	n 35 39 39 3 2 18	4 7	s 3 2 5	3 5 0 2 50 2 50 2 50 2 50	4 D 4	0 0			12 43 14	13 14 16 17 18	56 10 24	20 22 23 24 26	43 8 39 54 14
26 27 28 29 30 31	4 5	18 16 13 12 10 8	0	10 9 9 9	40 19 58 37 15	1 1 1 0 0	31	18 '3 <i>N</i> 50	3 56 12 95 6 6	4 5 5 5 4 3	12 17	18 17	2 5 2 4	5 20 1 20 1 20 20 20 1 20 7 20	5 5 . 6	1 1 1	58 .7 17 26 36 45	11 12 12 13	17 49 21 53 25 57	21 22 23	52 6 20 34 48 2	28	32 49 ≥ 4 18 30 30
					T	HE	G	EOI	RGI	Ąì	₹, (OR	L N	ĮΕV	v P	LA	NE	т.					
_		Lo	ngi	tude						L	atit	ude	•					De	clin	atio	n.		
_	1st.	_	11		!-	21st			st.	_ .	11	th.	_ _	218			lst.	_ _	11	th.	-	21st	
Į4	M 49	49 14 56 15					8	0	n 20	0	0	19)	0	19	15	s 5	9	16	l	1	6	5

SEPTEMBER 1811.

M D	Place	of j		lat	's it.	14 lati		la	's tit.	Q lai	's tit		's tit.		o's clin.		's :lin.		a's clin.		's lin.		's lin
1 7 13 19 25	17 17 16 16 16	my.	37 18 59 40 21	1 n 1 1 1 1	8 7 6 5	0 s 0 0 0	22 21 21 21 21 21	2 2 2 2 2	51 47 43 31 33	1 1 1 1	15 19 24 25 25	1	47 31 54	21 21 22 22 22	1 3	23 23 23 23 23	4 4 3	25 25 25 26 26	\$ 24 41 54 0	131 11 8 5 2	1 83 17 25 27	3 6 9 9	\$ 30 47 2 51 28
M D	long)'s itu	de.	dec)'s lin.	Clo bef.			's git.	D			's clin.		γ's ngit.		's igit.	Joi	"'s ogit		's git.	ğ lon	's git.
02345	11	6 4 2 0 58	9 15 23 32 44	8 1 8 7 7 7	132 11 49 27 5	0 0af 0 0		2) 18 3)	#38 €47 0 0 0	ì	37 20 4 27 43	9 4 0		20	9 10	19 20 20 20 20 20 20 20 20 20 20 20 20 20		15 15 16	# 30 4 38 12 46	28 29	217 31 45 259 13	4± 5 6 7 8	≥47 53 56 56 54
6 7 0 9 10	13 14 15	53	57 12 29 49 10	6 5 5 5	42 20 57 35 12	1 1 2 2 2	14 34	16	332 38 118 33 24	3 4 5 5 5	4 17	8 12 15 17 18,	27 16 12	20 20 20 20 20	13 14 15	2 2 3 3		17	20 55 30 . 5 41	3 4 5 7 8	28 43 57 11 25	11	49 41 30 16 59
11 19 13 14 O	18 19 20	48 47 45 43 42	0 28 58	4 4 3 3	49 17 4 41 17	3 3 4 4	15 36 56 17 38	21 35 15	555 10 13 8 57	4 4 3 2 1	24 42 50	18 17 15 13	26 52 37	20 20 20 20 20	20 22 24	3 3 3 3	17 25 32 39 46	20 21 22	17 53 29 6 43	12 13	40 55 10 24 38	14 14 15	38 13 43 8 28
16 17 18 19 20	23 24 25	39 38 37	5 41 19 0 42	2 2 2 1	54 31 8 45 21	4 5 5 6 6	41	20	244 31 ≥21 16 17	0 0 r 1 2 3	38 18 23 24 20	3	28 20 s 25	20 20 20 20 20	30 32 35	3 4 4 4 4		23 24 25	34	17 18 19		15 15 I 15	43 59 R5 5 59 49
21 O 23 24 25	28 29 0	34 33 31 30 29	26 11 59 48 39	0 0 0 0 0	58 35 11 12 36	6 7 7 7 8		20	128 50 126 19 31	4 4 5 5 5	44 8 17	10 13 15 17 18	24 49 30	20 20 20 20 20	43 45 48	4 4 4 4	26 32 38 44 50	27 27 28	43 22	23 24	22 37 52	14	25 0 27 48 3
26 27 28 0 30	3 4 5		31 25 21 19	0 1 1 2 2	59 23 46 9 33	8 8 9 9	47 8 27	112 26	% 5 3 % 23 3 € 59	3 1	4		47 24 3	20 20 21 21 21	57 0 3	4 5 5 5 5	55 0 5 10 15	01 0	40 19 58 37 16	0±	21 36 ≥51 6 21		13 15 8 6 53

THE GEORGIAN, OR NEW PLANET.

.]	Longitude	·•	1	Latitude.			Declinatio	on.
lst.	11th.	21st.	lst.	11th.	21st.	1st.	11th.	21st.
15 M 20	15 41	16 11	0 n 19	0 19	0 18	16 s l l	16 17	16 25

OCTOBER 1811.

M D	plac n	eof ode	-		၇'s tit.	,	L's Lit.	la	رار tit.	la	?'s lit.		ĕ's		h's clin		L's lin.	dec	j's lin.		's lin.		's lin.
1 7 13 19 25	16 15 15 15		43 24 5 46	1 1 1	n 3 2 1 0 59	0 0	20 20 20 20 19	2 2 2 2 2	s 28 92 17 11 5	1 1 1 1 0	17 10 10 50	0 1 2	n 20 1	22	10 12 15	23 23 23 23 23 23	0	25 25 25 24 24	54 39 16 45 6	0 : 3 : 6 : 9 :	34 36 36 30 17	-	43 46 32 8 30
M D	long	⊙'t gitu		dec)'s :lin.	Clo aft.		lo)'s ngit.)'s tit.	de	D's clip.		ђ's ngit.		L's git.		7's git.		's git.	lon	j'] git.
1 2 3 4 5	10	29 21 20	24	2 3 4 4	43	10 10 11	45	11' 26	χ 4 Υ 9 6 845	0 : 2 3 4 4	8 49 18 14 52	2 7	2		# 10 13 17 21 24	5 5 5 5 5	290 24 28 32 36	2V 3 4 4 5	955 35 15 55 35	4± 5 7 8 9	≥36 50 5 20 35		≥45 R39 35 35 44
O7 8 9 10	13 14 15	18 18 17 16 16	13 30 49	4 5 5 6 6		11 12 12	13 30	22 59	II 51 12 25 7 40 53	5 5 4 4 3	14 59 31	16 18 18 17 16	1		28 32 36 40 44	5 5 5 5	40 44 47 50 53	6 6 7 8 8	56 37 18	10 12 13 14 15	50 5 20 35 30	1 1 0 01	1 26 2 49 048
11 12 O 14 15	18 19 2 0	15 14 14	30	6 7 7 7 8	47 10 32 55 17	13 13 13	17 32 46 59	23 51 17	7 53 45 731 18 8	3 2 1 0:	3	14 11 8 5		21	48 52 57 1 6	5 5 6 6	3	9 10 11 11	21 2 43	17 18 19 20 22	5 20 35 50 5	0 1 1 2 3	57 16 45 23 10
16 17 18 19 O	23 24 25	12	47 26 8	8 9 9 9	24 46	14 14		23 51 17	≃ 4 9 η23 49 ‡26	2 3 3 4 4	8 4 52 32 58	9 12 15	40	22 22 22	11 15 20 25 30	6 6 6 6		15	49 31	25 27	20 35 50 6 21	4 5 6 7 8	6 9 17 30 48
91 92 93 94 95	27 28 29 m 0	11 11 11	36 23 12 2 54	10 11 11	29 50 12 33 54	15 15 15	18 27	23	16 19 936 8 8	5 5 4 4 3	. 5	17 18 18 17 15		22	35 40 45 50 55	6 6 6 6	13 14 14 15 215	17 18 18	37 19 1 44 27		21	11 13	10 36 5 36 9
26 028 29 30 31	3 4 5 6	10 10	43 40 39	12 13 13	15 35 55 16 36 55	15 16 16 16	55 0 5 9	19 4η 19	1 54 738 25 25	2 0 0 s 1 2 3	50	5	18 n 21	23 23	0 5 11 16 21 27	6 6 6 6	15 15 14 13 12 11	20 21 22 23	10 53 36 19 2 45	5 7 8 9 10	7 22 37 52	22	44 20 56 33 11 49
					7	HE	G	EC	ORG	IA	N	OR	N	EW	, P	LA:	NE'	r.			-		
		Ļ	ong	jud	е,					L	atitu	ıde	•					De	clin	atio	n.		
_	lst.	_	11		-	21st.			lst.	- -	110		-	21st			st.	- -	11tl			lst.	-1
16	m ·	13	17	15	1'	7 5	5	0	n 18	1	0	18	()	18	16	33	1	6	43	16	5	3

NOVEMBER 1811.

M D	Place	eof ode.			þ's tit.		L's tit.		ځ ^۲ ۶ uit.		's lit.		ğ ati	's t.	de	þ's clin.	ر dec	L's lin.	dec	''s :lin.	ded	?'s clin.	dec.	's lin,
1 7 13 19 25	14	双	23 • 4 45 26 7	0 0 0 0	n 58 57 57 56 55	0 0 0 0	18 18 17 17 16	1 1 1 1	\$ 57 51 44 37 . 31	0 0 0 0 0	36 22 8 6 21	0))) s	55 14 26	22 22	25	23 23 23	2 3 5	23 22 21 19 18	14 9 57	15 17 19 21 22	42 26	9 a 13 16 19 22	10 6 42 50 22
C W	long	O's	le.	de d	9's lin		ock O	loi)'s ngit.) 's Lit.	de	Dicli	's n.	lor	?'s u≱it.	2, lon	l's git.	lor	j's igit.	loi	Ç's ngit.	lon	's git.
1 2 0 4 5	10 11		5£	14 14 15	\$ 15 34 53 12 31	16 16 16	+14 15 16 16 16	2 16 0	გყვ II 27 48 ლე14 13	4 5 4	33 59 6 57 32	15 17 18	; }	53 43 31		# 33 38 44 50 56	6 6	8 6 4	241 25 25 26 27	11 54 37	131 14 15 17 18	M 23 38 53 8 23	29 011	≥28 6 (44 23 2
67 2 30	14 15 16	11 12 12	36 52 10 31 53	16 16 16	49 7 25 42 59	16 16 16	13 10 7 2 57	8 20	49 0 5 6 1757 44		54 7 12 12 9	15 19 9	2	16 43	24 24 24 24 24 24	2 8 14 20 26	6 5 5 5 5	0 58 55 52 48	29	48 31 15	19 20 22 23 24	38 54 9 24 39	8 10	40 18 56 34 11
13 13 14 15	19 20 21		42	17 17 18	16 3 3 49 5 21	15 15 15	51 44 36 27 18	19	32 25 28 144 14	2 3	54 55 51 41 20	8	1 8 1 3	36 11 59 38 50	24 24	32 38 45 51 57	5 5 5 5	45 42 38 34 30	1 2 3 3 4	27		10 26	18	48 25 1 37
16 O 8 9 2 1	24 25 26		23	18 19 19	36 51 6 21 35	14 14 14	7 56 44 31 17	23 61	\$57 \$57 \$9 \$933 7	5 4	1 59 40		3	18 39	25	4 10 16 23 29		25 21 17 12 7	5 6 6 7 8	23 7 52 37 21	2 3 4 5 7	26 42 58	21 23 24 26 28	49 24 59 34
21 22 23 025	\$9 \$ 0 1	19 20 21	21	20 20 20		13 13 13	3 47 31 14 57	17 1 15	₩:9 40 : 38 45 58	0		5	}) ;	25 53	25	36 42 49 55 2	4	56 51 46 40	11	11	, -	28 43 58 13 29	23 4	44 18 53 27
26 27 28 29 30	4		21	21 21 21	51 2 13 24 34	12 12 11	19 0 39	28 12 27	Υ 16 37 ℧ 56 7 Π 6	3 4 4	49	11	ļ	46 37 54	26 26 26 26 26 26	8 15 22 29 36	4	28 21 15	14	33 17 2	14 14 17 18 19	29		35 9 42 16 49
					T	IE	G	EO	RGI	AN	0	R	1	NE	w	PI	AN	ET	<u>.</u>		<u> </u>			
		I	ong	itu	de.					L	atit	nd	e.						D	ecli	nati	on.		-
-	lst.	_		th,	- -	218		L	lst.	_		th.		9	2150	<u>. </u>	1	st.		110	h.	9	2] st.	
ا ا	ems.	6	19		1 1	9	44		0 n 1	8	0	1	8	_	0	18	17	8 4	1	17	14	17	2	4

DECEMBER 1811.

M	Placeof) 's node.				Ъ's latit.		孔's latit.		on's latit.		Q's latit.		犮's latit.		Ь's declin.		μ's declin.		o ⁷ 's declin.		de	Q's declin.		첮's declin.	
19 19 25	12		29 10 51 32	0 0 0	n 55 54 54 53 53	0	16 15 14 13	1 1 1	s 24 18 11 4 58	1 1		9	1 : 2 2 2 2 2	14 12	22 22 22	3 2 3 3	23 23 23	10 12 14	17 15 14 12 10	44 29	23 24 24 23 23 23	20 58	24 25 25 25 23	8 14 21 38 0 30	
M	⊙'s longitude					Clock aft. ⊙		D's longit.			D's latit.)'s declin		Ъ's longit.		μ's longit.		وران longit.		Ç's longit.		ᇦ's longit.		
O2 3 4 5	9 10 11	27 28 29	32 23	21 22 22	\$ 44 53 2 11 19	10 10	33 10 47	8 21	11 47 95 7 4 \$\frac{4}{57}	3 3	39 57 10	7 1 2 1 7 1 1 5 1	8 7 6	41 55 16	26 26 26 27 27	\$ 43 49 56 3 10	3 3 3	45		16 1 46	21 22 23 24 26	16 31 46	15 16 18 20 21	\$ 23 57 30 37	
6 7 0 9 10	14 15 16	32 33 34	12	22 22 22	27 34 41 47 53	8 8 8 7 7	6	91 21 3:	59 752 39 218 24	0 0 1	16 14 n 49 49		7 4 0	40		17 24 31 38 45	3 3 3 9	27 20 12 5 57	21 21 22	1	29 11	32 47 19 2	23 24 26 27 29	10 43 17 50 23	
11 12 13 14 O	19 2 0 21	37 38	29 36	23 23 23	58 3 8 12 16		48	91 22 5	31 ¶54 35 \$36 \$56	_	35 15 44 59 58	1:	3 6	15 45 51 21 3	27 28	52 59 6 13 20	2 2 2 2 2	50 42 34 26 18	24 25 26	1 46 31 16	4 6	32 48 4 19 34	0V 2 4 5 7	956 29 2 35 7	
16 17 18 19 20	24 25 26	42 44 45	50 58 7 16 25	23 23 23	19 21 24 25 27	-	21 52 22 53 23	16 02 14	93 3 23 ≈2 3 28 9 5	4 4 3 2 1	17 15	18 16	8 6 1	45 23 53 21 58	28 28 28	27 34 41 49 56	2 2 1 1	10 2 54 46 38	28		11 12 13			38 39 39 38	
21 0 23 24 25	29 1 1	48 49 51	35 44 54 3 13	23 23 23	27 28 28 27 27 26	0	23 53 23	26 10 1 24	€43 49 €53 55 55	0 1 2 3 4	s 10 24 32 32 18	1	2 l n S	57 33 58 22 23	29 29 29	3 10 17 24 31	1 1 1 0	30 22 14 6 57	1 2 3 3 3	46	17 18	20 35 50	18	6 32 57 19 39	
26 27 28 0 30 31	4 5 6 7	58	23 32 42 51 11	23 23 23 23 23	24 22 20 17 13 9	1 1 2	37 7 37 6 35 4	6 I 20 39 16	44 1127 0 519 22 8	4 5 4 4 4 3	59 39	16 18 18	3			38 45 52 59 7	0 0 0 0 0	49 41 33 25 17 9	5 6 6 7 8 9	46 31 16	23 24 26	21 36 51 6 21 36	24 25 26 27	57 11 21 27 28 23	
_		_				HE	G	EO	RG					NI	ew	PI	LA?	NE1						_	
_	Longitude.								Latitude									Declination.					-		
	1st. 11th m 21 20			56 21		29 29	- -	lst. On I		- -	11th		3	0	ist.	3	8st. 17 s 34		11th.		21 st:				